



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,920	12/31/2003	Masahiro Yamanaka	SIC-02-009-2	1888
29863	7590	02/14/2005	EXAMINER	
DELAND LAW OFFICE P.O. BOX 69 KLAMATH RIVER, CA 96050-0069			LUONG, VINH	
			ART UNIT	PAPER NUMBER

3682

DATE MAILED: 02/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/750,920

Applicant(s)

YAMANAKA, MASAHIRO

Examiner

Vinh T Luong

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


Vinh T. Luong
Primary Examiner

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/26/05.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 26, 2005 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 12-14 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagano'149 (EP 0 512 149 A1 cited by Applicant).

Regarding claim 12, Nagano'149 teaches an axle bolt 3 (Fig. 3) wherein the axle bolt 3 comprises:

a bolt body 3b having a threaded outer peripheral surface 3b and an inner peripheral surface (at 3a in Fig. 3) defining an opening;

wherein the threaded outer peripheral surface 3b is dimensioned to fit within an inner peripheral surface of an axle 5 (Fig. 2);

a plurality of splines 10a circumferentially disposed on the inner peripheral surface of the bolt body 3b; and

a flange 3c extending radially outwardly from the bolt body 3b.

Claim 12 and other claims below are anticipated by Nagano'149 because Nagano'149 teaches each and every positively claimed element. The intended use statement in the preamble such as "*for an axle . . . wherein the axle has an inner peripheral surface*" does not limit the claims. *Catalina Marketing International Inc. v. Coolsavings.com Inc.*, 62 USPQ2d 1781

(CAFC 2002). In other words, referring the axle bolt to the merely inferentially included elements or intended use elements such as the axle, bottom bracket, bicycle frame, and crank arm is not accorded patentable weight. It is well settled that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 13, the flange 3c is positioned at an end of the bolt body 3b.

Regarding claims 14 and 18, the plurality of splines 10a are positioned at the end of the bolt body 3b.

4. Claims 15-17 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagano'149.

Regarding claims 15 and 19, Nagano'149 teaches the invention substantially as claimed. However, Nagano'149's flange 3c does not have a knurled outer peripheral surface.

It is common knowledge in the art to form the knurled outer peripheral surface of Nagano'149's axle bolt in order to prevent slippage. The use of knurled outer peripheral surface to prevent slippage is notoriously well known as evidenced by the cited references. See, *e.g.*, the knurled outer peripheral surface 81 in US Patent No. 5,907,980 issued to Yamanaka and the knurled outer peripheral surfaces 218, 240, 160, and 162 in US Patent No. 5,919,106 issued to Ichida.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the knurled outer peripheral surface on the flange of Nagano'149 in order to prevent slippage as taught or suggested by common knowledge in the art.

Regarding claims 16 and 21, each of Nagano'149's splines 10a comprises a substantially arcuate projection. To change the shape of Nagano'149's splines to the arcuate shape would have been a matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu*, 66 F.3d 292, 36 USPQ2d 1089 (Fed. Cir. 1995) citing *In re Gal*, 980 F.2d 717, 719, 25 USPQ2d 1076, 1078 (Fed. Cir. 1992); *Monarch Knitting Machinery Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 45 USPQ2d 1977 (Fed. Cir. 1998); and *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) cited in MPEP 2144.04. The arcuate splines are notoriously well known as evidenced by the references cited (see, e.g., US Patent No. 5,370,486 issued to Plummer, Fig. 4 of US Patent No. 5,494,390 issued to Gonzales, US Patent No. 5,207,132 issued to Goss et al., and splines 23 in US Patent No. 4,618,299 issued to Bainbridge et al.).

Regarding claims 17 and 20, Nagano'149 teaches a plurality of splines 3c. To choose the number of Nagano'149's splines to be exactly eight splines would have been a matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu, supra*. See also *Sjolund v. Musland*, 6 USPQ2d 2020, 2026 (Fed. Cir. 1988)(the use of a plurality of panels instead of a single panel is obvious).

5. Claims 15-17 and 19 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Nagano'149 in view of Yamanaka'980 (US Patent No. 5,907,980).

Regarding claims 15 and 19, Nagano'149 teaches the invention substantially as claimed.

However, Nagano'149's flange 3c does not have a knurled outer peripheral surface.

Yamanaka'980 teaches the knurled outer peripheral surface 81 in order to prevent slippage. *Ibid.*, col. 6, lines 7-10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the knurled outer peripheral surface on the flange of Nagano'149 in order to prevent slippage as taught or suggested by Yamanaka'980.

Regarding claim 16, each of Nagano'149's splines 10a comprises a substantially arcuate projection. To change the shape of Nagano'149's splines in Nagano'149's axle bolt, which is modified by Yamanaka'980, to the arcuate shape would have been a matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu* and *In re Dailey, supra*. The arcuate splines are notoriously well known as evidenced by the references cited (see, e.g., US Patent No. 5,370,486 issued to Plummer, Fig. 4 of US Patent No. 5,494,390 issued to Gonzales, US Patent No. 5,207,132 issued to Goss et al., and splines 23 in US Patent No. 4,618,299 issued to Bainbridge et al.).

Regarding claim 17, Nagano'149 teaches a plurality of splines 3c. To choose the number of Nagano'149's splines in Nagano'149's axle bolt, which is modified by Yamanaka'980, to be exactly eight splines would have been a matter of choice in design since the claimed structures and the function they perform are the same as the prior art. *In re Chu* and *Sjolund v. Musland, supra*.

6. Applicant's arguments filed January 26, 2005 have been fully considered but they are not persuasive.

First, Applicant argues:

Claim 12 has been amended to clarify that the axle bolt is directed to an axle that is structured to be rotatably fitted within a bottom bracket of a bicycle frame and coupled to a crank arm so that the axle and the crank arm rotate as a unit relative to the bottom bracket as the bicycle is pedaled, wherein the axle has an inner peripheral surface, and that the bolt body is structured so that the threaded outer peripheral surface is *dimensioned* to fit within the inner peripheral surface of the axle. *The claims still are directed to an axle bolt per se.*

As for the recited threaded outer peripheral surface of the bolt body, the word "dimensioned" is a positive and definite limitation. It is acceptable to define the dimensions of a device in terms of the environment in which it is to be used. *Orthokinetics Inc. v. Safety Travel Chars Inc.*, 1 USPQ2d 1081 (Fed. Cir. 1986). (Emphasis added).

The Examiner respectfully submits that this case is distinguished from *Orthokinetics Inc.* because the relevant claims in *Orthokinetics Inc.* are Jepson claims as evidenced by the recitation "the improvement . . ." For Applicant's convenience, a copy of *Orthokinetics Inc.* is attached hereby. It is well settled that Jepson claim under 37 CFR 1.75(e) is a combination claim. See MPEP §§ 2129 and 608.01(m). Therefore, the preamble of the claims in *Orthokinetics Inc.* is clearly accorded patentable weight. Meanwhile, Applicant's claims are not Jepson claims, *i.e.*, Applicant's claims merely call for a subcombination of an axle bolt 380 shown in Applicant's Figs. 8 and 9. Applicant's term "dimensioned" is similar to the term "dimensioned" in *Watts v. XL Systems Inc.*, 56 USPQ2d 1836, 1840 (Fed. Cir. 2000). More importantly, since Applicant expressly admits that "[t]he claims still are directed to an axle bolt per se," thus, the intended use statement in Applicant's preamble "for an axle . . . wherein the axle has an inner peripheral surface" does not limit the claims. *Catalina Marketing International Inc. v. Coolsavings.com Inc.*, *supra*.

Second, Applicant contends:

Nagano discloses a crank axle unit mounted in a bottom bracket (5) of a bicycle frame. The crank axle unit comprises a tubular element (2) surrounding and rotatably supporting a crank axle (1), wherein the bottom bracket (5) surrounds the tubular element (2). A first screw ring (3) and a second screw ring (4) are screwed into opposite ends of the bottom bracket (5) for positioning and fixing the tubular element (2) in the bottom bracket (5), wherein the first screw ring (3) is fitted on an outside wall of the tubular element (2) at one end of the tubular element (2). First screw ring (3) includes tool engaging teeth (10a) on an inner peripheral surface thereof and an outer peripheral threaded portion (3b) that screws into an inside wall of the bottom bracket (5). *Outer peripheral threaded portion (3b) of first screw ring (3) clearly is not dimensioned to fit within the inner peripheral surface of an axle* that is structured to be rotatably fitted within a bottom bracket of a bicycle frame and coupled to a crank arm so that the axle and the crank arm rotate as a unit relative to the bottom bracket as the bicycle is pedaled, and there is no suggestion to make such a modification. (Emphasis added).

As set forth above, the prosecution history reflects the fact that Applicant explicitly admits in the record that “[t]he claims still are directed to an axle bolt per se.” It is well settled that the preamble that merely extols benefits or features of invention does not limit claim scope without clear reliance on those benefits or features as patentably significant, and preambles describing use of invention generally do not limit claims, since patentability depends on claimed structure, not on use or purpose of that structure. *Catalina Marketing International Inc. v. Coolsavings.com Inc., supra*. In the instant case, the axle, bicycle frame, and crank arm, etc. are merely intended use structures as Applicant admitted, therefore, these structures do not limit Applicant’s claims.

On the other hand, contrary to Applicant’s remarks, Nagano’149’s threaded outer peripheral surface 3b is clearly dimensioned to fit within an inner peripheral surface of an axle 5 as seen in Fig. 2. The axle 5, in turn, is inherently structured to be rotatably fitted within a

bottom bracket of a bicycle frame 2 and coupled to a crank arm 6b. The axle which is rotatably fitted within a bottom bracket of the bicycle frame and coupled to the crank arm is notoriously well known as seen in, *e.g.*, Fig. 1 of GB 356,497 cited in Applicant's corresponding PCT Application, or Fig. 1 of DE 197 51 879 A1 cited by Applicant. As such, Fig. 2 of Nagano'149 implicitly suggests to make such a modification.

For the foregoing reasons, the rejections are maintained.

7. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 3682

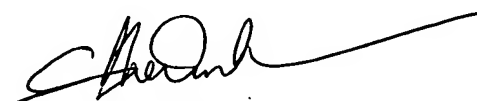
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinh T. Luong whose telephone number is 703-308-3221. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on 703-308-3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Luong

February 9, 2005



Vinh T. Luong
Primary Examiner